Department of Toxic Substances Control

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AMENDED TIME CRITICAL REMOVAL ACTION IMPLEMENTATION PLAN FOR THE EXIDE PRELIMINARY INVESTIGATION AREA

TO: Barbara A. Lee
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SUBJECT: AMENDED TIME CRITICAL REMOVAL ACTION IMPLEMENTATION PLAN

DATE: March 27, 2018

DTSC is implementing Time Critical Removal Actions (TCRAs) to reduce the risk to public health and the environment from exposure to lead-impacted soil at sensitive land use properties within the Preliminary Investigation Area (PIA)—the area within an approximately 1.7-mile radius of the former Exide Technologies, Inc. (Exide) lead-acid battery recycling facility (hereafter, "former Exide facility"). The purpose of this memorandum is to define the procedures that DTSC will follow to implement TCRAs in the PIA. This memorandum updates and amends the Time Critical Removal Action Implementation Plan, Exide Preliminary Investigation Area, dated February 28, 2017.

The following procedures are described in this memorandum:

1. Evaluation of Properties for TCRA,
2. PIA Property Sampling,
3. Prioritization of Properties for Response Action,
4. TCRA Action Memoranda, and
5. TCRA Implementation.

1. Evaluation of Properties within the PIA for Implementing a TCRA

To determine if a TCRA is warranted, properties with the highest concentrations of lead in soil and the greatest potential for human and environmental exposure to the lead will be evaluated on a case-by-case basis in a manner consistent with the National Contingency Plan or "NCP." (40 CFR 300.400.) This federal regulation establishes methods and criteria for determining the appropriate type of response action to take under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) when there is a release of a hazardous substance into the environment. For the purpose of this Implementation Plan, it is important to note that CERCLA response actions normally do not include remediation of exterior lead-based paint at a property unless the paint may re-contaminate soil after the response action has been completed.[1]

DTSC has determined that lead released from operations at the former Exide facility may have contaminated properties in the communities within the PIA. 40 CFR 300.415 sets out a number of factors that must be considered in determining the appropriateness of a TCRA to abate, prevent, minimize, stabilize, mitigate, or eliminate the threat to public health or welfare of residents or the environment. In the PIA, the following factors are relevant and must be considered in determining the appropriateness of a TCRA:

- High levels of hazardous substances, pollutants, or contaminants, including lead, in soils largely at or near the surface that may migrate;
- Actual or potential exposure to nearby people, animals, or the food chain from hazardous substances, pollutants, or contaminants, including lead; and Weather conditions that may cause hazardous substances, pollutants, or contaminants, including lead, to migrate or be further released,

DTSC is currently conducting sampling at sensitive land use properties (residences, daycare and child care centers, parks, and schools) in the PIA in accordance with a Sampling and Analysis Plan, as described in Section 2 of this memorandum. DTSC will

[1] See, e.g., EPA (2009) Final Lead Based Paint Recontamination Study Report, at https://archive.epa.gov/region07/cleanup/npl-archive/web/pdf/appendix_l.pdf, which includes further information regarding the process for evaluating potential recontamination of soil from deteriorating lead-based paint as employed by EPA.

evaluate each property to determine, on a case-by-case basis, the properties with the highest concentrations of lead in soil and the greatest potential for exposure in accordance with the criteria described in Section 3, below. A TCRA Action Memorandum will be developed for each of the properties where DTSC has determined a TCRA is appropriate. The TCRA Action Memorandum will justify and specify the necessary response action(s) as described in Section 4, below. DTSC will implement the TCRA as described in Section 5, below.

2. PIA Property Sampling

Approximately 10,000 residential properties, daycare and child care centers, parks, and schools within the PIA are currently being sampled in accordance with the procedures set forth in the *Final Work Plan for Sampling and Analysis of Properties in the Vicinity of the Exide Facility (SAP).*[2] The current status of the PIA sampling effort is shown on Figure 1 the Exide PIA Status Map.

[2] The SAP is available on DTSC's website at http://www.envirostor.dtsc.ca.gov/public/deliverable_documents/3423904240/2015-11-18_PIA_Final%20Sampling%20WP%201000%20Res.pdf.

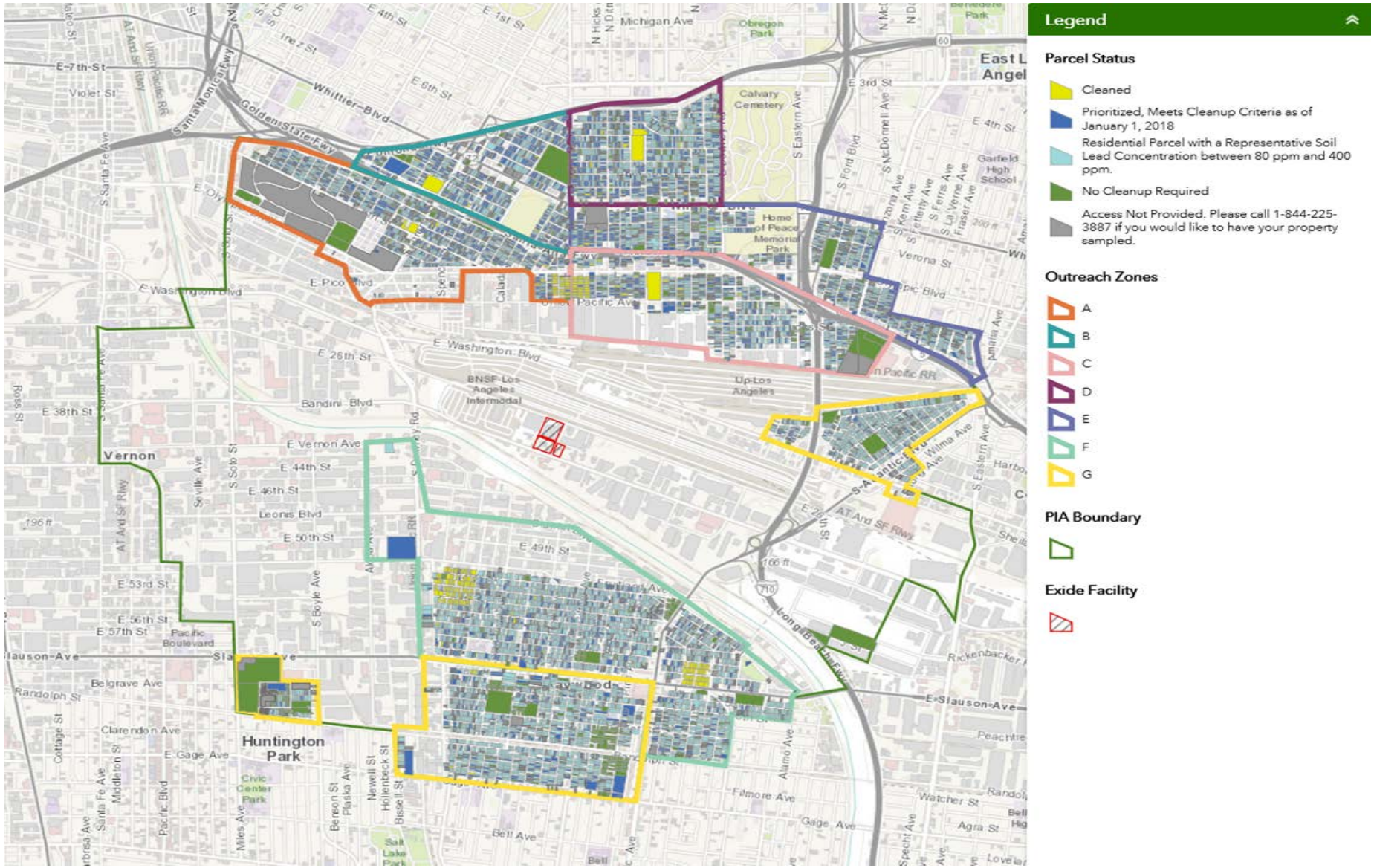

Figure 1 Exide PIA Parcel Status Map

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3. Prioritization of Properties for Response Action

DTSC is using a multi-factored approach to prioritization, determining on a case-by-case basis whether it is appropriate to undertake a TCRA (see Attachment 1, Amended Time Critical Removal Action [TCRA] Guidance). DTSC is prioritizing properties with the highest overall lead concentrations in the top three inches of soil that represent the greatest risk to human health. If DTSC is notified of the presence of a child with elevated blood lead levels at a property within the PIA, DTSC will give that property the highest priority for a TCRA evaluation. Because lead exposure can adversely affect children's health, including their neurological development, the presence of very young children at a property is especially important in prioritization. Due to known neurological concerns associated with lead and child development, schools, and daycare and child care centers will be evaluated for a TCRA first, followed by residential and other sensitive land use properties with the highest lead concentrations.

Sensitive land use properties within the PIA will be evaluated using the following process:

(1) DTSC will determine the representative soil lead concentration, also described as the 95% Upper Confidence Limit of the mean (95% UCL) lead concentration in the soil.
(2) DTSC will determine the maximum property soil lead concentration based on sampling results for each property.
(3) DTSC will include properties for further assessment if the properties' sampling results exceed the Residential Soil Screening Levels for lead contained in DTSC HERO Note 3.
(4) DTSC will employ a Relative Risk Ranking System to assess the properties that exceed Residential Soil Screening Levels for lead. The System uses the analyses and recommendations in DTSC's HERO Note 3; DTSC's LeadSpread model, which is based on blood-lead-level impacts of 1 µg/dL; U.S. EPA's Adult Lead Model; and the U.S. EPA Hazard Ranking System (HRS). DTSC will use the HRS to develop a property-by-property Relative Risk Score. Priority for TCRA will be based on that score.
(5) Once DTSC identifies properties for which a TCRA is appropriate, DTSC will prepare an Action Memorandum documenting the basis for its decision and the nature of the action(s) that will be taken.

These evaluation procedures are described further below.

Property Representative Soil Lead Concentration (95% UCL)

First, DTSC will use the discrete lead sample results in the upper three inches of soil from each property to calculate the 95% UCL lead concentration in the soil using U.S. EPA's statistical software package UCL Pro 5.1. DTSC will use the 95% UCL as the Exposure Point Concentration or concentration of lead that a person may encounter on the property.

Maximum Property Lead Concentration

Second, DTSC will evaluate the maximum observed lead concentration to assess the cleanup requirements for a specific Decision Unit (front yard, back yard, or side yard) at the property. The Decision Unit will be evaluated to determine if there are concentrated areas of elevated lead levels, such as those shown on the sample figure below.

Residential Soil Screening Levels

Third, DTSC will include properties for further assessment if the properties sampling results exceed the Residential Soil Screening Levels for lead. DTSC selected the following Residential Soil Screening Levels for lead based on the analysis and recommendations in DTSC's HERO Note 3, DTSC's LeadSpread model, and U.S. EPA's Adult Lead Model, and are based on blood-lead-level impacts of 1 µg/dL.

Soil Screening Levels (mg/kg or ppm)		
Contaminant	**Child**	**Adult Residents**
Lead	80	220[3]

DTSC Relative Risk Ranking System

Fourth, to determine the Relative Risk Ranking Score, DTSC will use U.S. EPA's Hazard Ranking System (HRS). The potential health risk from exposure to bare, lead-impacted soil is calculated in accordance with HRS procedures published as Federal regulations on December 14, 1990 (55 Federal Register 51532), particularly HRS Table 5.1, Soil Exposure Pathway Scoresheet.

The "DTSC Residential Cleanup: Relative Risk Ranking System" (Attachment 2) is adapted from HRS's Soil Exposure Pathway Scoresheet and will be used to provide a weighting factor representing the relative magnitude of potential risk due to bare soil exposure at properties. Note that the presence of residents and children at a property for an extended period, particularly very young children, such as at daycare or child care centers and residences, is highly relevant in this risk analysis.

The Relative Risk Ranking System has been developed into a spreadsheet that will be utilized in the field to expedite the ranking process. The spreadsheet is also designed to document the recommended response action for a property based on the analysis of the identified conditions at the property and will be attached to the TCRA Action Memorandum for that property.

4. TCRA Memoranda

If DTSC determines that a TCRA is appropriate at a property, the justification and specifications for implementation of a TCRA at that property will be documented in a TCRA Memorandum. A TCRA Memorandum will be developed for each property where DTSC determines that a TCRA is appropriate. (See Attachment 3, TCRA Memorandum Template).

[3] USEPA ALM (adult).

5. TCRA Implementation

DTSC began evaluating sensitive land use properties to determine whether a TCRA is appropriate in January 2017. DTSC will continue to evaluate properties to determine if further TCRAs are appropriate.

TCRAs will be implemented in accordance with the TCRA Memoranda and the Final Amended Offsite Interim Remedial Measures Work Plan (including any modifications, amendments, or addenda thereto subsequently approved by DTSC) (IRMW). Attachment 4, entitled “Steps in Exide Sampling and Cleanup,” describes the TCRA implementation process in detail.

The following is a summary of a typical schedule that will be followed in implementing a TCRA. Once a property has been identified the property owner will be contacted and an initial meeting scheduled to obtain an access agreement for a TCRA. Information gathered at the initial meeting will be used to prepare a Relative Risk Ranking System form. A draft Action Memorandum will be prepared and made available for the contractor for use during the pre-construction meeting to establish the excavation boundaries. The contractor will assist DTSC in obtaining the appropriate permits and contacting dig alert prior to commencing field work. The response will be described in the Action Memo. Where an excavation is contemplated, excavation will be conducted in accordance with the procedures identified the IRMW – with the exception of section 2.1.1. Instead, the Relative Risk Ranking System described above will be utilized for prioritization. See Attachment 2.

DTSC anticipates that pre-excavation work, fieldwork and restoration activities will be completed as summarized in the table below:

Description	Date*
Initial Meeting: Meeting with Resident (Property Owner and Tenant) of the property to discuss TCRA and obtain access agreement.	Day 1
Meeting with Resident (Property Owner and Tenant) of the Property to Discuss TCRA; Obtain Utility Clearance; Begin Mobilization.	Day 2
Initiate Soil Removal Activities or Other Interim Controls at Property Number XXXXX.	Day 3
Complete Soil Removal or Other Interim Controls at Property Number XXXXX.	Days 4 - 7
Restore Property.	Days 8 - 10
Contractor Submits Draft Letter of Completion (LOC)[4] to DTSC.	Day 40
Contractor Receives DTSC's comments on Draft LOC.	Day 45
Contractor Incorporates DTSC comments into Draft Final LOC.	Day 48
DTSC Approves Draft Final LOC.	Day 49
Contractor Submits Final LOC to DTSC[5].	Day 60
* Days are estimates; actual dates will be negotiated during initial meeting with the resident (i.e., property owner and/or tenants.	

DTSC will notify the property owner and tenant, if applicable, as soon as practicable if circumstances beyond the control of the remediation contractor (e.g., extended rain, receipt of permits, unforeseen material or obstacles in the yard, or difficulties in obtaining access) prevent the contractor from completing fieldwork according to this schedule.

DTSC will also offer the following services and compensation to the property owner or tenant, if applicable, as stated in Attachment 4, "Steps in Exide Sampling and Cleanup," and in accordance with the DTSC Temporary Relocation and Compensation Implementation Plan, Exide Preliminary Investigation Area (amended March 2018) (including any modifications, amendments, or addenda thereto subsequently approved by DTSC):

- Temporary relocation assistance during active excavation and removal of lead-impacted soil;
- Interior cleaning;
- Landscaping restoration, and eligible compensation for replacement landscaping;
- Reimbursement for eligible lost wages and income incurred by licensed daycare centers and child care facilities during active excavation and removal of lead-impacted soil; and
- Reimbursement for eligible temporary relocation expenses incurred by residents. (property owners or tenants), during active excavation and removal of lead-impacted soil.

[4] Contractor must submit Draft Letter of Completion within 30 days after field activities are completed.
[5] Contractor must submit Final Letter of Completion within 15 days after comments are received from DTSC.

Attachments:

Attachment 1: Amended Time Critical Removal Action (TCRA) Guidance
Attachment 2: DTSC Residential Cleanup Relative Risk Ranking System
Attachment 3: Time Critical Removal Action Memorandum Template
Attachment 4: Steps in Exide Sampling and Cleanup

ATTACHMENT 1

AMENDED TIME CRITICAL REMOVAL ACTION GUIDANCE

Department of Toxic Substances Control

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March 9, 2018

Amended Time Critical Removal Action (TCRA) Guidance Exide Preliminary Investigation Area

The Department of Toxic Substances Control (DTSC) recently completed a Remedial Action Plan (Cleanup Plan) and Environmental Impact Report (EIR) for the Preliminary Investigation Area (PIA) near the former Exide Technologies, Inc. (Exide) lead-acid battery recycling facility in Vernon, California. The Cleanup Plan outlines California's largest cleanup of sensitive land use properties (i.e., residences, schools, parks, day care centers, and child care facilities), which will be completed as quickly and safely as possible, and includes key protections for community members and workers. Based on the information developed as part of the Cleanup Plan and EIR processes, and other similar projects, DTSC is continuing to evaluate and address on an expedited basis a limited number of properties with high levels of lead in soil that may pose a threat to human health.

This document provides guidance on the factors DTSC may use to determine on a case-by-case basis if a Time Critical Removal Action (TCRA) may be warranted before cleanup activities under the approved Cleanup Plan. This guidance applies to residential properties, schools, daycares and child care centers, and parks within the PIA.

DTSC's goal is to ensure that timely and appropriate actions are taken to prevent exposures to sensitive populations. Before taking actions under this guidance, DTSC must obtain access from property owners and tenants and make a determination that the expedited cleanup or other action will not have a significant impact on the environment. Based on an assessment of existing soil sampling results, analysis of similar cleanup projects, and the cumulative impacts analysis in the EIR, DTSC anticipates no impacts from cleaning up select properties in the PIA under this guidance. Additionally, DTSC will utilize measures to protect worker health, public health, and the environment consistent with all applicable laws.

This guidance is consistent with the criteria in Subpart E of the National Oil and Hazardous Substances Pollution Contingency Plan (40 C.F.R. § 300.400 et seq.), as amended (i.e., the National Contingency Plan or NCP) and the U.S. Environmental

Protection Agency (U.S. EPA) Superfund Lead-Contaminated Residential Site Handbook. DTSC will consider all applicable statutes and regulations, and retains the discretion to make decisions that deviate from this document. DTSC also may amend this document.

What is a TCRA?

Under this guidance, a TCRA is any action taken to reduce or prevent an imminent and substantial endangerment to the public health or welfare, or to the environment, because of a release or threatened release of a hazardous substance at the property where the TCRA will occur. A TCRA may include removal and disposal of material or other actions taken to prevent, minimize, stabilize, or eliminate the release of lead in soil.

What factors will DTSC consider in evaluating and deciding the appropriate action(s) to take?

DTSC will consider various factors to be applied, on a case-by-case basis, to determine whether it is appropriate to undertake a TCRA that include, but are not limited to, the following:

- High levels of lead in soils largely at or near the surface. Examples, include, but are not limited to, the following:
    - The representative soil lead concentration at the property.
    - The absence of a barrier (grass, mulch, rock, etc.) between lead-impacted soil and the potentially exposed population at the property.
- The actual or potential exposure, and the severity of that exposure, to sensitive populations from high lead levels in the soil. Examples of sensitive populations include, but are not limited to, the following:
    - Children under the age of seven (7) years who reside or are at the property for extended periods of time.
    - People who reside at the property and have a blood-lead level at or above five (5) micrograms per deciliter (ug/dL).
- The likelihood that an actual or potential exposure would recur after the TCRA is completed and would present an on-going threat to people.
- The availability of other appropriate federal or state response mechanisms to respond to the release.
- Other situations or factors that may pose threats to public health or welfare, or the environment in the State of California.

What other actions can owners, residents, day care and child care center owners and operators, and others take now to prevent exposures to lead?

DTSC provides owners, residents, school districts, day care and child care center owners and operators, and local governments within the PIA with educational information regarding measures they can take to prevent exposure to lead. Some of these measures include:

- Covering or eliminating access to bare soil containing elevated levels of lead with barriers, mulch, gravel, or other means.
- Stabilizing exterior deteriorated lead-based paint surfaces. Paint stabilization entails removing deteriorating paint, preparing the building or structure for repainting, and repainting. DTSC staff can assist with applications for funding lead-based paint abatement from the federal Department of Housing and Urban Development.

DTSC encourages potentially affected individuals to have their blood lead levels tested. DTSC will coordinate with the California Department of Public Health (CDPH) and local or state public health officials to determine the appropriate response action at properties where there is a member of a sensitive population that has an elevated blood lead level.

ATTACHMENT 2

DTSC RESIDENTIAL CLEANUP RELATIVE RISK RANKING SYSTEM

Department of Toxic Substances Control

Residential Cleanup Relative Risk Ranking System

CalEPA California Environmental Protection Agency

Property Information	Enter property information from database and confirm information during Initial Evaluation Meeting with residents.
Assessor's Parcel Number	
Property ID	
Property Type	
Property Name	
Owner or Tenant Occupied	
Resident Contact Person	
Phone Number	
House Number	
Apartment or Property Number	
Street Name	
City	
County	
Zip Code	
Owners Information	
Name	
Owner Contact Person's Name	
Phone Number	
House Number	
Apartment or Property Number	
Street Name	
City	
County	
Zip Code	

Site Conditions	Site Specific Conditions for HRS Soil Exposure Pathway	
Date of Initial Evaluation		
Number of Children		DTSC confirmed number of children at the property during Initial Evaluation Meeting with resident.
Child Screening Level (mg/kg lead in soil)	**80**	See DTSC PB8(child) tab below for detailed assumptions.
Number of Adults per Residence		DTSC confirmed number of adults at the Property during Initial Evaluation Meeting.
Adult Screening Level (mg/kg lead in soil)	**220**	See Modified USEPA ALM (adult) table below for detailed assumptions.
Total Individuals per Residence	**0**	Number of residents pursuant to the HRS criteria to be confirmed by DTSC during the Initial Evaluation Meeting with residence.

Department of Toxic Substances Control

Residential Cleanup Relative Risk Ranking System

CalEPA California Environmental Protection Agency

Sampling Report Data		Data interpretation from sampling report.
Date Property Sampled		
Sampling Contractor		
95% UCL of Mean for Lead in soil on property (mg/kg)		Lead concentration based on UCLPro 5.1.0 output using sampling data from 0-3 inches.
Bare Soil		Is bare soil present in the contaminated areas?
Max Concentration of Lead in elevated area (mg/kg)		Visual interpretation of sample results map.
Area of Elevated Lead Concentrations in Bare Soil		Is there bare soil present in the area of elevated lead concentrations.
Exposure Concentration (EC)		Either 95% UCL or Max Concentration
Special Considerations		
Level I Concentration		Sum the number of resident individuals subject to Level I concentrations.
Level II Concentrations	0	Sum the number of resident individuals subject to Level II concentrations. Do not include those people already counted under Level I Concentrations.
Relative Risk Rank (RRR)	0	RRR = (Exposure Concentration/Screening Level)*HRS Score for the Soil Pathway.
Recommended Response Action	**Remove surface soil < 18" in front yard, back yard, and drip zone in accordance with DTSC's Interim Removal Measures Work Plan.**	
Project Professional Engineer's Name		
Project Professional Engineer's Number		
Engineer's Signature		
Engineer's Stamp		
Review Date		

ATTACHMENT 3

TIME CRITICAL REMOVAL ACTION MEMORANDUM TEMPLATE

Department of Toxic Substances Control

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Edmund G. Brown Jr.
Governor

TIME CRITICAL REMOVAL ACTION MEMORANDUM TEMPLATE

TO: Mohsen Nazemi, M.S., P.E.
Deputy Director
Brownfields and Environmental Restoration Program

VIA: Suhasini Patel
Assistant Deputy Director
Brownfields and Environmental Restoration Program

FROM: Author Name, P.E.
Author Title
Exide Residential Sampling and Cleanup
Brownfields and Environmental Restoration Program

SUBJECT: Time Critical Removal Action: Action Memorandum for Site Address (Property Number PROPERTYID)

DATE: Date

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1. Purpose

This Action Memorandum is a decision document that's purpose is to document the Department of Toxic Substances Control's (DTSC) evaluation and approval of a Time Critical Removal Action (TCRA) for the property located at Site Address, identified as Assessor's Parcel Number APN (Property Number PROPERTYID).

This Action Memorandum implements DTSC's Amended Time Critical Removal Action Implementation Plan for the Exide Preliminary Investigation Area, (DTSC, March 2018) (including any modifications, amendments, or addenda thereto subsequently approved by DTSC) (TCRA Implementation Plan). DTSC developed this document to reduce the risk to public health and the environment from exposure to lead-impacted soil at sensitive land use properties within the Preliminary Investigation Area (PIA). The PIA is the area within an approximately 1.7-mile radius of the former Exide Technologies, Inc. (Exide) lead-acid battery recycling facility in Vernon, California (hereafter, "former Exide facility"). The past operational activities at the former Exide facility resulted in the release of lead and other substances to the PIA.

This decision document represents the selected removal action for Property Number PROPERTYID which was developed in accordance with Health and Safety Code sections 25358.3, 25355.5, and 25356.1.5, as amended, and is not inconsistent with, is based upon, and is no less stringent than Title 40 of the Code of Federal Regulations (40 C.F.R.), Part 300

– National Oil and Hazardous Substances Pollution Contingency Plan, as amended (NCP), and in particular Subpart E – Hazardous Substance Response (§§ 300.400 – 300.440).

This action meets the criteria for initiating a removal action under the NCP, 40 C.F.R. § 300.415, to mitigate the threat posed to public health by the presence of the hazardous substances at Property Number PROPERTYID. The uncontrolled conditions of the hazardous substances present at Property Number PROPERTYID and the threats they present require that this action be classified as a TCRA. This TCRA will require approximately 14 days to complete.

2. Former Exide Facility Background, DTSC's Work in the PIA, Property Prioritization Criteria, and Property Number PROPERTYID Conditions

2.1. Former Exide Facility Background

The former Exide facility is located at 2700 South Indiana Street in Vernon, California. Past and recent activities conducted at the Exide facility may have contributed to lead contamination of offsite properties within the PIA. The Exide facility was used for a variety of metal fabrication and metal recovery operations since the 1920s. A lead recycling facility operated at the Exide facility property from 1922 until March 2014.[1] Lead-acid batteries were also crushed and recycled in a secondary lead smelter system. The ownership of the facility has changed over the years. The facility was purchased by Exide in 2000.

A DTSC 2002 Corrective Action Consent Order (Docket No. P 3-01-02-010) requires that Exide perform certain corrective action measures to address releases of hazardous waste or hazardous waste constituents at the former Exide facility.

In January 2013, Exide submitted a Health Risk Assessment (HRA) to the South Coast Air Quality Management District (SCAQMD) indicating a significant health risk associated with toxic air emissions from the former Exide facility. In April 2013, DTSC ordered Exide to temporarily suspend facility operations. Exide filed an ex parte application for a temporary restraining order and preliminary injunction. The Los Angeles Superior Court granted Exide's request, effectively staying DTSC's order to temporarily suspend facility operations until the administrative enforcement proceeding could be completed. In October 2013, DTSC and Exide then entered into the Stipulation and Order (Docket HWCA P3-12/13-010; 2013 Stipulation and Order) to settle the allegations alleged in DTSC's order to temporarily suspend operations at the former Exide facility.

The 2013 Stipulation and Order required Exide to perform residential soil sampling, focusing on those areas with the highest predicted maximum exposed individual resident for lead and arsenic to the north and south of the former Exide facility; this area is known as the Initial

[1] Exide has begun formal closure of the former Exide facility, subject to DTSC oversight and in accordance with federal Resource Conservation and Recovery Act (RCRA) hazardous waste control laws and other regulations. These closure activities are described in the Exide Closure Implementation Plan approved by DTSC (2016, rev. 2017). Closure of the former Exide facility is a separate regulatory process and is outside of the scope of this TCRA.

Assessment Area. In addition, the 2013 Stipulation and Order required Exide to determine background levels of lead and other metals in soil and to delineate the extent of lead contamination in residential soil above background or DTSC's Residential Soil Screening Level of 80 mg/kg. Because Exide had filed for bankruptcy, the bankruptcy court's approval was required for this order and subsequent DTSC orders.

In March 2014, Exide shut down its operations because it could not meet new rules enacted by the SCAQMD, and has not operated since that date. In November 2014, DTSC and Exide entered into another Stipulation and Order (Docket HWCA No. 2014-6489; 2014 Stipulation and Order), which included requirements related to facility closure issues and required Exide to clean up contaminated residential properties in the Initial Assessment Areas.

In January 2015, DTSC determined that the liner system under the containment building where Exide stored crushed battery feed material had failed. On January 30, 2015, DTSC ordered Exide to investigate the extent of contamination under the containment building, so that Exide could implement any necessary corrective actions. In February 2015, DTSC initiated the process of denying Exide's pending permit application. After a detailed review of the Exide facility's record and its Part B hazardous waste permit application, DTSC notified Exide on February 10, 2015 that it had concluded that the facility cannot operate in compliance with California's safeguards to protect public health and the environment. In March 2015, DTSC ordered Exide to withdraw its permit, to permanently cease operations at the facility, and to close the facility in accordance with a DTSC-approved closure plan. The former Exide facility is currently undergoing the closure and corrective action process.

DTSC determined that a response action is necessary within the PIA to reduce the health threat posed by soil contaminated by lead released from operations at the former Exide facility.

2.2. DTSC's Work in the PIA

DTSC is in the process of sampling up to 10,000 properties within the PIA to determine the nature and extent of lead contamination due to past releases of hazardous substances from the former Exide facility. As of March 7, 2018, DTSC has sampled over 8,400 properties in the PIA for lead.

TCRA activities are conducted according to the TCRA Implementation Plan. The properties with the highest lead concentrations and the greatest risk are being evaluated by DTSC in a manner not inconsistent with the NCP, including Subpart E – Hazardous Substance Response (40 C.F.R. § 300.410, Removal Site Evaluation). DTSC's TCRA Implementation Plan is not inconsistent with, is based upon, and is no less stringent than these provisions, in that it describes the factors DTSC may consider in evaluating and addressing high levels of lead in soil that pose a threat to public health in the PIA. In implementing the TCRA Implementation Plan, DTSC is evaluating properties where sampling results indicate the highest lead concentrations and the greatest risk to determine on a case-by-case basis if a TCRA is warranted. Carrying out a TCRA will reduce potential risks to public health from hazardous substances in the soils.

On July 17, 2017, DTSC approved a Removal Action Plan (Cleanup Plan), Offsite Properties within the Exide Preliminary Investigation Area and Final Environmental Impact Report (EIR) for cleanup of sensitive land use properties (residences, daycare and child care centers, parks, and schools) within the PIA impacted by lead released from operations at the former Exide facility. Implementation of the Cleanup Plan is a separate regulatory process and is outside the scope of this TCRA. Properties subject to a TCRA may also be evaluated for further action, if appropriate, under the Cleanup Plan.

2.3 Property Prioritization Criteria

DTSC prioritizes sensitive land use properties that exceed Residential Soil Screening Levels (RSSLs) for lead for TCRA using a Relative Risk Ranking System. The Relative Risk Ranking System ranks properties based on the potential risk to children and adults posed by the lead concentrations in soil. The Relative Risk Ranking System uses the U.S. Environmental Protection Agency (U.S. EPA) Hazard Ranking Score for the Soil Exposure Pathway presented on Table 5-1 in 40 C.F.R., Part 300 (Appendix A) and the Hazard Index (Exposure Concentration/Soil Screening Level). A soil screening level of 80 mg/kg is used for children seven (7) years old and younger, and 220 mg/kg is used for adults.

The system is adapted from U.S. EPA's Hazard Ranking System (HRS) to quantify the potential health risk from exposure to bare, lead-impacted soil. DTSC selected the RSSLs based on the analysis and recommendations in DTSC's Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HRRA) Note Number: 3, DTSC-Modified Screening Levels (DTSC-SLs) (HERO Note 3), DTSC's Lead Risk Assessment Spreadsheet 8 (LeadSpread8 model), and Modified Version of U.S. EPA's Adult Lead Model (U.S. EPA Adult Lead Model). HERO Note 3 provides the justification for establishing the 80 mg/kg of lead in soil as the Soil Screening Level for children at residential properties based on the level of lead in soil that has been determined to potentially increase a child's blood lead level by 1 µg/dL. This low-level amount of blood lead may reduce a child's developmental IQ by 1 point.

2.4. Property Number PROPERTYID Characteristics

Property Number PROPERTYID is within the PIA. Provide information about the property type and usage. During the initial meeting on Date, and the pre-construction meeting on Date (attended by XXX), it was confirmed that X children seven (7) years of age or younger and X adults (children older than 7 are counted as adults) are present on a daily basis at the X. Property Number PROPERTYID contains bare soil impacted by lead.

The characteristic inorganic lead found in sensitive land use property soils in the PIA, including in the soils at Property Number PROPERTYID, is described in the sampling report in Appendix A. This property was sampled as PROPERTYID on Date (and as PROPERTYID on Date IF APPLICABLE). According to the sampling reports, a total of X borings were hand-augered into the surface soil (0-3 inches below ground surface [bgs]). Samples were collected in these borings at X inches to determine the subsurface lead concentrations.

Discuss sampling activities and results. Include two highest detections. X out of X discrete sample results exceeded the DTSC Soil Screening Level for lead exposure for children of 80 mg/kg. X samples were below the Adult Screening Level for lead of 220 mg/kg. Appendix C includes the DTSC's Leadspread8 Model and the U.S. EPA Adult Lead Model that provided the methods and assumptions used to determine the child and adult screening levels.

Paint was sampled on date… (or not). Paint data is not available for this property / Paint on the residential buildings at the property was sampled for lead using XRF. One XRF reading with the result of X mg/cm^2 on a wooden window sill exceeded / did not exceed Los Angeles County Public Health goal for lead based paint of X mg/cm^2.

In accordance with HERO Note 3, the 95% Upper Confidence Limit (95% UCL) of the mean lead concentration on the surface (0-3 inches) of the property was calculated, and the maximum concentrations were reviewed to determine whether there was an area of elevated contamination levels that would warrant removal. The U.S. EPA's ProUCL 5.1 was used to calculate the 95% UCL lead concentration for surface soils (0-3 inches bgs) at the property using laboratory sampling data. The ProUCL 5.1 software evaluates the distribution of the data, determines the appropriate statistical method, and suggests which UCL method is most appropriate as shown on the ProUCL 5.1 output. (See Appendix D.) The combined 95% UCL for PROPERTYID is X mg/kg. OR THIS:

In accordance with HERO Note 3, the 95% Upper Confidence Limit (95% UCL) of the mean lead concentration on the surface (0-3 inches) of the property is only calculated for sites with eight (8) or more surface sampling results available. Since there were fewer than eight surface sampling results available for this property, a value for 95% UCL was not calculated. Instead, the maximum concentration of lead in surface soil was used to determine if there was an area of elevated contamination levels that would warrant removal. The maximum concentration of lead in surface soil for PROPERTY ID is X mg/kg.

The results of the Relative Risk Ranking system evaluation are summarized in the Relative Risk Ranking System sheet in Appendix B. Discuss calculated RRR Score and interpretation. The complete analysis and results of this evaluation are provided in Appendix B, the Relative Risk Ranking Report.

It was determined by DTSC that the soil on the property should be removed until the post-remediation risk evaluation indicates a Hazard Index less than or equal to 1. Soil excavation will not exceed a depth of 18 inches.

3. Endangerment/Threats to Public Health or Welfare or the Environment and Statutory and Regulatory Authorities

The principal chemical of concern at Property Number PROPERTYID is lead. Lead is a neurotoxin that accumulates both in soft tissues and the bones. DTSC has determined that a potential for complete exposure pathways exists at Property Number PROPERTYID. Residents may ingest or inhale bare or manually disturbed soils containing elevated concentrations of lead. The groups most at risk to lead-exposure related impacts are fetuses, infants, and children under age 7.

The conditions at Property Number PROPERTYID present a threat to the public health or welfare, and the environment, and meet the criteria for a removal action as provided for in Subpart E of the NCP, 40 C.F.R. § 300.400 et seq. These criteria include, but are not limited to, the following:

3.1. § 300.415(b)(2)(i) - Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants
DTSC documented the presence of lead in soil at Property Number PROPERTYID in concentrations exceeding Soil Screening Levels (SSL) for children seven (7) years old and younger (80 mg/kg) and adults (220 mg/kg) for lead. Appendices A - D describe the sampling results and related analysis in detail. Exposure may occur from: direct ingestion of soil in yards; soil tracked indoors, or house dust; inhalation of fugitive dust; and ingestion of vegetables grown in contaminated soil. Potential human receptors include residents and visitors, including children seven (7) years old and younger.

Lead is a hazardous substance, as defined by Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. § 9601(14)). The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in the body. The main target for lead toxicity is the nervous system, especially in children as noted above. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production. (Agency for Toxic Substances and Disease Registry [ATSDR], 2007, ToxFAQs Fact Sheet – Lead [CAS #7439-92-1]).

3.2. § 300.415(b)(2)(iv) - High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate
DTSC identified lead in the top 18 inches of soil above the SSLs for children seven (7) years old and younger and adults. Lead-contaminated soil may migrate as airborne particulate matter, surface runoff, percolation into groundwater, through construction activities, by children transporting soil/dust into their homes after playing in contaminated soil, and by tracking in homes via foot traffic into residences.

3.3. § 300.415(b)(2)(v) - Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released
There is a threat of release from high winds and heavy rains dispersing surface particulate matter containing lead, resulting in exposure to children and adults who reside at Property Number PROPERTYID or who spend substantial time at Property Number PROPERTYID.

4. Selected Removal Action: Time Critical Removal Action

4.1. TCRA Implementation Plan

In accordance with the TCRA Implementation Plan, DTSC considers various factors to be applied, on a case-by-case basis, to determine whether it is appropriate to undertake a TCRA that include, but are not limited to, the following:

- High levels of lead in soils largely at or near the surface. Examples include, but are not limited to, the following:
    - The representative soil lead concentration at the property.
    - The existence of a barrier (grass, mulch, rock, etc.) between lead-impacted soil and the potentially exposed population at the property.
- The actual or potential exposure, and the severity of that exposure, to sensitive populations from high lead levels in the soil. Examples of sensitive populations include, but are not limited to, the following:
    - Children under the age of seven (7) years who reside or are at the property for extended periods of time.
    - People who reside at the property and have a blood-lead level at or above five (5) micrograms per deciliter (µg/dL).
- The likelihood that an actual or potential exposure would recur after the TCRA is completed and would present an on-going threat to people.
- The availability of other appropriate federal or state response mechanisms to respond to the release.
- Other situations or factors that may pose threats to public health or welfare, or the environment in the State of California.

A TCRA may include excavation and disposal of material or other actions taken to prevent, minimize, stabilize, or eliminate the release of lead in soil.

4.2. TCRA for Property Number PROPERTYID

The TCRAs proposed herein are necessary to mitigate threats to public health, welfare, and the environment posed by the presence of uncontrolled hazardous substances at Property Number PROPERTYID. DTSC has documented elevated levels of lead in surface soil at Property Number PROPERTYID. (See Appendices A through D.) Lead is a hazardous substance as defined by section 25316 of the California Health and Safety Code.

The TCRAs proposed are described below, and the action selected is identified by a checked-box "☒":

☒ **Excavation.** Excavation is recommended to eliminate the direct contact threat is appropriate for this property and will be conducted in accordance with the procedures identified in the Final Amended Interim Remedial Measures Work Plan (DTSC, March 2018) (including any modifications, amendments, or addenda thereto subsequently approved by DTSC) (IRMW).

This action will be undertaken in accordance with the Health and Safety Plan, the Quality Assurance Project Plan (QAPP), and Transportation Plan also revised and approved for the IRMW.

Lead-impacted soil at Property Number PROPERTYID will be excavated to a maximum of 18 inches bgs. The excavated areas will be based on the concentrations of lead found in the soils and the accessibility of such soils for excavation. Soil excavation depths will range from 6 inches to 18 inches bgs. DTSC or its contractor will hand auger borings at 8 locations to a depth of 12 to 18 inches to collect samples to predetermine likely depth of excavation necessary to meet the cleanup standard. As part of this TCRA, DTSC or its contractor will collect and analyze confirmation samples from the bottom of the excavation; replace excavated soil with clean soil; restore landscaping and grass destroyed during removal actions and repair any damage to property caused by excavation activities; collect samples for disposal analysis; and transport and dispose off-site any hazardous substances, pollutants and contaminants at an approved disposal facility in accordance with U.S. EPA's Off-Site Rule (40 C.F.R. § 300.440). Trees and established shrubs will not be removed. Areas within the biological root zone of trees or established shrubs (dripline) will be excavated to a maximum depth of 6 inches to preserve the integrity and survivability of the trees. Excavations will be conducted using small construction equipment and/or hand dug.

Interior cleaning will be offered by DTSC within 2 weeks after completion of exterior work on the property and will be scheduled by the property owner(s), in accordance with DTSC's Temporary Relocation and Compensation Implementation Plan.

☐ **Other Interim Controls.** Other interim controls are appropriate for this site to eliminate the direct contact threat. The U.S. Department of Housing and Urban Development (HUD)'s Guidelines for Evaluation and Control of Lead-Based Paint Hazards in Housing (July 2012), includes guidelines for mechanisms to eliminate direct contact. These mechanisms include placement of ground coverings such as grass, ivy, artificial turf, bark, mulch, and gravel. The other interim controls for this TCRA were established in accordance with HUD's 2012 guidance (pages 11-61 through 11-69) and are described in Appendix B, if applicable.

TCRAs will be conducted in a manner not inconsistent with Section 300.415 of the NCP, 40 CFR§ 300.415, to abate or eliminate the immediate threat posed to public health or the environment by the presence of the hazardous substances at Property Number PROPERTYID. The uncontrolled conditions of the hazardous substances present at Property Number PROPERTYID and the potential threats they present require that this action be classified as a TCRA.

4.3. Project Schedule

Discuss the dates for the initial and pre-construction meetings and the general schedule for the project. The excavation, soil removal, backfilling, and restoration will commence thereafter. DTSC will notify the property owner and resident as soon as practicable when circumstances beyond the control of the remediation contractor (e.g., extended rain, receipt of permits, unforeseen material or obstacles in the yard, or difficulties in obtaining access)

prevent the work from being completed according to this schedule. All work will be coordinated with the property owner(s). Following the completion of the cleanup activities for the property, the contractor will prepare and submit a Letter of Completion (LOC). Once DTSC approves the LOC it will be provided to the property owner to document the cleanup activities were completed at the property. The LOC may also be provided to the tenant upon request. The following table provides the work schedule for the removal activities.

Description	**Date***
Initial Meeting: Meeting with Resident (Property Owner and Tenant) of the property to discuss TCRA and obtain access agreement.	Day 1*
Meeting with Resident (Property Owner and Tenant) of the Property to Discuss TCRA; Obtain Utility Clearance; Begin Mobilization.	Day 2*
Initiate Soil Removal Activities or Other Interim Controls at Property Number PROPERTYID.	Day 3*
Complete Soil Removal or Other Interim Controls at Property Number PROPERTYID.	Days 4 – 7*
Restore Property.	Days 8 – 10*
Contractor Submits Draft Letter of Completion (LOC)[2] to DTSC.	30 days after field activities are completed*
Contractor Receives DTSC's comments on Draft LOC.	5 days after Draft LOC submitted*
Contractor Incorporates DTSC comments into Draft Final LOC.	3 days after DTSC provides comments on Draft LOC*
DTSC Approves Draft Final LOC.	1 day after Draft Final LOC submitted*
Contractor Submits Final LOC to DTSC[3].	15 days after DTSC provides comments on Draft LOC*
* Days are estimates; actual dates will be negotiated during initial meeting and/or the pre-construction meeting with the resident (i.e., property owner and/or tenants).	

4.4. Estimated Costs

Activity	**Estimated Cost**
Contractor Labor and Travel Costs	$34,627
Other Direct Contractor Costs	$18,349
ODC Fee	$1,835

[2] Contractor must submit Draft Letter of Completion within 30 days after field activities are completed.
[3] Contractor must submit Final Letter of Completion within 15 days after comments are received from DTSC.

Subtotal	$54,811
Contingency Costs	$189
Total TCRA Project Ceiling*	$55,000

* DTSC's direct and indirect costs, although recoverable, do not count toward this Total TCRA Project Ceiling for this action. Liable parties may be held financially responsible for costs incurred by DTSC pursuant to CERCLA and the California Health and Safety Code.

5. Expected Change in the Situation Should Action Be Delayed or Not Taken
Delay of the proposed actions will allow a continued unabated potential threat of release and exposure of sensitive populations, especially children under seven (7) years of age, to hazardous substances associated with high levels of lead in lead-impacted soils at Property Number PROPERTYID.

6. Outstanding Policy Issues
None.

7. Enforcement
This TCRA will be implemented by DTSC and its contractors.

8. Compliance with the California Environmental Quality Act
A Cleanup Plan and associated EIR for the PIA were finalized in July 2017. Although Property Number PROPERTYID is within the PIA, this TCRA can be analyzed as a separate project under the California Environmental Quality Act (CEQA) because it has independent utility. The TCRA is based on the criteria set out in the TCRA Implementation Plan. The action is an essential expedited action needed to protect the public welfare, as explained above. The TCRA for Property Number PROPERTYID is not dependent upon the implementation of the Cleanup Plan; nor will implementation of TCRA expand the Cleanup Plan or increase the impacts of the Cleanup Plan.

A project is exempt from CEQA if the "activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA." (CEQA Guidelines, §15061, subd. (b)(3)). This exemption "is sometimes called the 'common sense' exemption." (*Muzzy Ranch Co. v. Solano County Airport Land Use Com*. (2007) 41 Cal.4th 372, 380.)

DTSC has analyzed the environmental review for other similar cleanup activities, including the Interim Measures – Northern and Southern Assessment Areas and the Negative Declaration prepared in 2014 for those interim measures; the Addendum to the 2014 Negative Declaration, which was prepared in November 2015, as well as the EIR described above to determine that there is no possibility that the activity in question may have a significant effect on the environment. The TCRA is an action to eliminate the direct contact threat associated with high levels of lead in lead-impacted soils at Property Number

PROPERTYID. The threat will be eliminated by excavation. A Notice of Exemption will be filed in accordance with 14 C.C.R. §§ 15061(2).

9. Recommendation

The time critical removal action described in Section 4.2 should be implemented at Property Number PROPERTYID. The response proposed is in accordance with the applicable statutory and regulatory removal provisions, as discussed above. Conditions at Property Number PROPERTYID meet the NCP Section 300.415(b)(2) criteria for a removal action. This decision is based on the administrative record. The administrative record is available for public review per statutory mandate.

Appendices
Appendix A: Sampling Report for PROPERTYID
- Sampling Contractor, Document Title (Date)

Appendix B: Relative Risk Ranking Score
Appendix C: DTSC's Leadspread8 Model and the U.S. EPA Adult Lead Model
Appendix D: ProUCL 5.1 output for Property Number PROPERTYID
Appendix E: Administrative Record List

Appendix E: Administrative Record for TCRA at Property Number PROPERTYID

(1) 40 Code of Federal Regulations, Part 300.

(2) 42 United States Code Annotated, Chapter 103, sections 9601 et seq.

(3) California Code of Regulations, Title 22, Division 4.5

(4) Addendum to and Findings for the Interim Measures Work Plan, Lead Contaminated Soils Initial Study/Negative Declaration, November 12, 2015.

(5) Addendum to the November 15, 2013, Work Plan for Offsite Soil Sampling, Exide Technologies, Vernon, CA, Advanced Geoservices Corporation, March 21, 2014, revised April 30, 2014.

(6) Agency for Toxic Substances and Disease Registry (ATSDR), 2007, ToxFAQs Fact Sheet–Lead (CAS #7439-92-1).

(7) Agency for Toxic Substances and Disease Registry (ATSDR), 1990, ATSDR, U.S. Public Health Service; Toxicological Profile for Lead. California Code of Regulations, Title 22, Division 4.5.

(8) California Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk (HERO), Human Health Risk Assessment (HHRA) Note Number: 3, July 14, 2014.

(9) California Health and Safety Code, Division 20, Chapter 6.5, sections 25100 et seq.

(10) California Health and Safety Code, Division 20, Chapter 6.8, sections 25300 et seq.

(11) CDC Response to Advisory Committee on Childhood Lead Poisoning Prevention Recommendations in “Low Level Lead Exposure Harms Children: A Renewed Call of Primary Prevention,” June 7, 2012.

(12) Chaney, R.L, H. W. Mielke, and S. B. Sterrett. 1989. Speciation, Mobility, and Bioavailability of Soil Lead; in B.E. Davies and B.G. Wixson (eds), Lead in Soil: Issues and Guidelines (Science Reviews Limited, Norwood, England) pp 105-129.

(13) Davis, 1993. Davis, J.M., Elias, R.W., Grant, L.D., “Current Issues in Human Lead Exposure and Regulation of Lead,” NeuroToxicology 14(2–3): 1528.

(14) Development of Health Criteria for School Site Risk Assessment Pursuant to Health and Safety Code Section 901(g): Child-Specific Benchmark Change in Blood Lead Concentration for School Site Risk Assessment, Office of Human Health Hazard Assessment (OEHHA), April 2007.

(15) Environmental Impact Report, Offsite Properties within the Exide Preliminary Investigation Area, July 2017.

(16) Exide Preliminary Investigation Area, Time Critical Removal Action (TCRA) Steps in Exide Sampling and Cleanup, March 12, 2017.

(17) Addendum to the November 18, 2015 Final Workplan Sampling and Analysis of Properties in the Vicinity of the Exide Facility (Vernon, CA), Parsons, March 9. 2016.

(18) Final Workplan Sampling and Analysis of Properties in the Vicinity of the Exide Facility (Vernon, CA) Parsons, November 18, 2015, rev. Oct 27, 2016, rev. November 1, 2016.

(19) Final Offsite Interim Remedial Measures Workplan Offsite Residential Areas Associated with the former Exide Battery Recycling Plant (Vernon, CA). Parsons, November 18, 2015.

(20) Final Amended Offsite Interim Remedial Measures Workplan Offsite Residential Areas Associated with the former Exide Battery Recycling Plant (Vernon, CA). DTSC, March 9, 2018.

(21) Hazard Ranking System (HRS), Final Rule, 55 FR 51532-51667, December 14, 1990.

(22) Human and Ecological Risk Office (HERO), Human Health Risk Assessment, (HHRA) Note Number 3, DTSC-Modified Screening Levels DTSC, June 2016.

(23) Imminent and Substantial Endangerment Determination for the Residential Areas Surrounding Exide Technologies, November 12, 2015.

(24) Interim Final, Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA. EPA/540/G-89/004, US EPA, October 1988.

(25) Interim Remedial Measures Work Plan, Exide Technologies, Vernon, California, Advanced Geoservices Corporation, March 21, 2014 revised November 7, 2014.

(26) Lead Risk Assessment Spreadsheet 8, DTSC. http://www.dtsc.ca.gov/AssessingRisk/LeadSpread8.cfm.

(27) Moore, M. R., P. A Meridith, W.S. Watson, D. J. Summer, M. K Taylor, and A Goldberg, 1980, The percutaneous absorption of lead-203 in humans from cosmetic preparations containing lead acetate as assessed by whole-body, counting and other techniques. Food Cosmet. Toxicol. 18: 636.

(28) National Academy of Sciences, 1993. Measuring Lead Exposure in Infants, Children, and Other Sensitive Populations, Committee on Measuring Lead in Critical Populations, Board on Environmental Studies and Toxicology, Commission on Life Sciences, National Academy Press, Washington, DC.

(29) Negative Declaration and Initial Study for the Exide Interim Measures–Northern and Southern Assessment Areas, November 7, 2014.

(30) National Science Foundation (NSF) (1977), Lead in the environment, NSF/RA-770214. Bogess, W.R., ed., NSF, Washington, DC (cited in EPA 1986a).

(31) Notice of Exemption, TCRA at Property Number PROPERTYID, DTSC, 2018.

(32) Offsite Soil Sampling Report, Exide Technologies, Vernon, CA, Advanced Geoservices Corporation, February 18, 2014.

(33) Post-Remediation Report, Exide Technologies, Vernon, CA. Advanced Geoservices Corporation, September 26, 2014.

(34) Post-Remediation Report, Residential Soil Removal, Phase 2, Exide Technologies, Vernon, CA. Advanced Geoservices Corporation, February 3, 2016.

(35) Proven Technologies and Remedies Guidance Remediation of Metals in Soil, DTSC, August 29, 2008.

(36) Public Participation Plan for the Offsite Properties Within the Exide Preliminary Investigation Area, DTSC, July 2017.

(37) Region IX Regional Screening Levels, updated US EPA, May 2016.

(38) Removal Action (Cleanup) Plan, Offsite Properties within the Exide Preliminary Investigation Area, July 2017.

(39) Residential Cleanup, Relative Risk Ranking System Sheet for PROPERTYID, DTSC, DATE.

(40) SAMPLING REPORT FOR PROPERTYID, SAMPLING CONTRACTOR, REPORT DATE.

(41) Risk Assessment Guidance for Superfund: Volume 1–Human Health Evaluation Manual. Part A. Interim Final. Office of Emergency and Remedial Response. Washington, DC EPA 540/1-89/002. US EPA, 1989.

(42) Ryu, J.E., E.E. Ziegler. S.E. Nelson, and S.J. Fomon, 1983, Dietary Intake of Lead and Blood Lead Concentration in Early Infancy, Am. J. Dis. Early Child.

(43) Sampling data and analytical reports for soil sampling of properties at or in the vicinity of the Exide Facility, conducted by or at the order/request of DTSC.

(44) San Francisco Bay Regional Water Quality Control Board 2016. Environmental Screening Levels Workbook (ESLs), February 2016 Rev. 3.

(45) Subpart E of the National Oil and Hazardous Substances Pollution Contingency Plan (40 C.F.R. § 300.400 et seq.), as amended (i.e., the National Contingency Plan or NCP).

(46) Superfund Lead-Contaminated Residential Sites Handbook, prepared by the US EPA Lead Sites Workgroup (LSW), Final: US EPA, August 2003.

(47) Supplemental Sampling Workplan for Schools and Parks in the Vicinity of the Exide Facility dated November 7, 2016 (EFI Global, 2016).

(48) Second Addendum to the Supplemental Sampling Workplan for Schools and Parks in the Vicinity of the Exide Facility dated December 6, 2016 (EFI Global, 2016b).

(49) Time Critical Removal Action Implementation Plan, March 09, 2018.

(50) US Environmental Protection Agency, Superfund Lead-Contaminated Residential Site Handbook, August 2003.

(51) US Department of Housing and Urban Development (HUD)’s Guidelines for Evaluation and Control of Lead-Based Paint Hazards in Housing, July 2012.

(52) US Environmental Protection Agency, 1991, Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual Supplemental Guidance,

Standard Default Exposure Factors, OSWER Directive 9285.6-03, Interim Final, March 25, 1991.

(53) US Environmental Protection Agency, 2003, Recommendations of the Technical Review Workgroup for Lead for an Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil. Final (December 1996), EPA-540-R-03-001, January 2003.

(54) US Environmental Protection Agency, 2009a, Adult Lead Model (ALM) spreadsheet (MS Excel). http://www.epa.gov/superfund/lead/products.htm

(55) US Environmental Protection Agency, 2009b, Update of the Adult Lead Methodology's Default Baseline Blood Lead Concentration and Geometric Standard Deviation Parameter. OSWER Dir #9200.2-82, June 2009.

(56) US Environmental Protection Agency, 1986, Air Quality Criteria for Lead, EPA 600/8-83-028, June 1986, Environmental Criteria and Assessment Office.

(57) US Environmental Protection Agency, 1997, Exposure Factors Handbook EPA/600/P-95/002Fa, August 1997, Office of Research and Development.

(58) US Environmental Protection Agency, 1998, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E Supplemental Guidance for Dermal Risk Assessment) Interim Guidance.

(59) US Environmental Protection Agency, May 1996, Soil Screening Guidance: Technical Background Document, EPA/540/R-95/128, Office of Solid Waste and Emergency Response, Appendix D, Table 3.

(60) Users Guide to Leadspread 8 and Recommendations for Evaluation of Lead Exposures in Adults, 2011.

(61) White, P.D., P. VanLeeuwen, B.D. Davis, M. Maddaloni, K.A. Hogan, A.H. Marcus, and R.W. Elias, 1998; Environ. Health Perspect 106, Suppl. 6; 151.

(62) Work Plan for Offsite Soil Sampling, Exide Technologies, Vernon, CA, Advanced Geoservices Corporation, November 15, 2013.

ATTACHMENT 4

STEPS IN EXIDE SAMPLING AND CLEANUP

Department of Toxic Substances Control

Steps in DTSC's Time Critical Removal Action Cleanup Process

Step 1 Meeting to Evaluate TCRA Candidates

- Pre-meeting coordination:
  1. DTSC Field Operations Engineer(s) will evaluate available sampling data from properties in the Preliminary Investigation Area (PIA) and identify TCRA candidate properties with the highest lead concentrations and greatest potential risk given the sample results for the property and known demographic data for the property.
  2. DTSC Field Operations Manager provide a list of identified properties to Public Participation staff (PPS), if available.
  3. DTSC staff will call the property owner and tenant to schedule an Initial Meeting at a mutually agreeable date. At this meeting, DTSC's Contractor and DTSC Field Operations Engineers will evaluate the current property conditions and determine if a TCRA is warranted. PPS will also attend that meeting, if possible.
- Initial Meeting with the Resident (i.e., Property Owner or Tenant):
  1. If sample results have not previously been provided to the owner, they will be provided and explained during the Initial Meeting.
  2. At the meeting, DTSC will review the sampling results and locations with the resident and confirm whether elevated lead concentrations in soil provide a direct exposure route to children. DTSC will identify the number of adults, children over the age of seven, and children under the age of seven at the property; bare soil will be noted and photographed; and will make recommendations for measures, such as covering or excavation of the contaminated soil, to reduce the potential risk from lead.
- Stay at Home or Temporary Relocation Options: DTSC's Contractor will fill out a temporary relocation questionnaire during this meeting, and the resident will verify that the Contractor completed the questionnaire accurately. The resident's options are:
  1. <u>Stay at Home</u>
     a. Residents may stay home while cleanup activities are occurring so long all doors, windows, and vents are closed during soil excavation and removal activities.
     b. DTSC will ensure that all doors, windows, and vents are closed and covered with plastic sheeting during soil excavation and removal activities.
     c. As described below, dust control measures and monitoring will be implemented by DTSC.
     d. If excess dust is detected, additional mitigation measures, such as further wetting, etc., will be implemented to minimize generation of any dust.
     e. If the temperature rises above 80° Farenheit or upon request, DTSC will offer residents a fan or ventless air cooling system to use on a temporary basis until the windows can be opened again following excavation work.

2. Temporary Relocation
    a. Residents can also temporarily relocate in accordance with the DTSC Temporary Relocation and Compensation Implementation Plan, Exide Preliminary Investigation Area (amended March 2018) (including any modifications, amendments, or addenda thereto subsequently approved by DTSC) if: (1) soil excavation and removal is scheduled to take longer than one business day to complete; and (2) soil excavation and removal will be conducted using an excavator such as a backhoe, mini-excavator, or Bobcat.
    b. Temporary relocation will typically only be for one night as active soil removal work normally takes one to two days. DTSC will inform the residents of the number of days that soil excavation and removal activities will take for their property during the Pre-Construction Meeting to allow the residents to plan for temporary relocation.
    c. If a resident wishes to temporarily relocate, DTSC will reimburse eligible temporary relocation expenses of up to $1,000 total for all residents at a single-family residential property, and up to $1,000 total for all residents in each residential unit of a small multi-family residential property. Eligible temporary relocation expenses include:
        - Lodging at a local hotel selected from a list of hotels provided by DTSC, in which case hotel lodging costs and fees incurred during the temporary relocation period would be paid for directly by DTSC, with no out of pocket cost for the residents;
        - Lodging at a hotel or using an online hospitality service (such as Airbnb) for the temporary relocation period, up to $158/night plus any applicable taxes, parking fees, and hotel charges for rollaway beds;
        - Meals for each day or fraction of a day during the temporary relocation period, up to $41/day for adults and children 12 years of age and older ($7 for breakfast, $11 for lunch, and $23 for dinner) and up to $20.50/day for children younger than 12 years of age ($3.50 for breakfast, $5.50 for lunch, and $11.50 for dinner);
        - Eligible incidentals (e.g., mileage, gas, taxi, or ridesharing service fees), up to $5/day;
        - Documented pet care expenses (such as kennel or pet-friendly hotel fees) incurred by the residents during the temporary relocation period, not including charges for any damage or injuries caused by the residents' pets.
    d. DTSC will assist residents with individual needs or special circumstances, such as physical or special needs during the temporary relocation period, and may, in its discretion, reimburse such residents more than $1,000 in temporary relocation expenses. A resident with individual needs or special circumstances must submit any request for reimbursements above the $1,000 cap in writing at the Initial Meeting. A DTSC panel will review the request and issue a written decision before soil excavation and removal activities begin.
    e. To receive reimbursement for eligible temporary relocation expenses, residents will need to provide DTSC with certain required documentation.
3. DTSC's Field Operations Manager will complete the Relative Risk Ranking form and determine what response measures, if any, will be required to reduce the potential risk. PPS staff will provide information about the Free Blood Lead Test program (LACDPH's Post Card for Free Blood Lead Level Test), obtain an access agreement for cleanup, and inform the property owners that it is their responsibility to tell their tenants about the soil test results.
4. If action is deemed appropriate, DTSC's Project Manager will prepare an Action Memo describing the

approved action and the basis for the action.

Step 2 Pre-Construction Meeting

- If cleanup is required, DTSC PPS will schedule a Pre-Construction Meeting in coordination with DTSC's Contractor and DTSC Field Operations Engineer(s).
- The meeting will be attended by DTSC Field Operations Engineer, PPS, and DTSC's contractor.
- If not previously done at the Initial Meeting, discuss the soil test data and locations and the proposed cleanup details with the owner and/or residents.
- DTSC will provide information to the resident (i.e., owner or tenant) about potential risks of lead exposure and how to take precautions.
- An Access Agreement for Cleanup will be obtained or verified. A copy of the agreement will be provided to the property owner at that time.
- A mutually agreeable date is scheduled to perform the necessary pre-clean up functions, such as locating utility lines (gas, electricity, cable and water), and a date is specified for the start of the actual cleanup.
- The owner and/or resident will be informed of his or her obligation to remove personal items in areas to be excavated and the possible outcomes if the obligation is not met (described below).

Step 3 Cleanup Process

- On the date agreed upon, cleanup will commence. If soil excavation and removal is required, it will be performed in accordance with the Final Offsite Interim Remedial Measures Workplan (IRMW) (including any modifications, amendments, or addenda thereto subsequently approved by DTSC). Under the IRMW, anticipated soil removal activities may include:
  1. Prior to excavation, the contractor will locate utility lines such as gas, electrical, cable and water. The contractor will use wash-away paint to tag utilities on-property. "Digalert" will mark off-property service lines coming on to property. The contractor will also take photographs of the property to document existing conditions.
  2. The resident or owner will have removed personal items in areas to be excavated. If the resident or owner is physically unable to remove the personal items, the resident or owner may ask DTSC for assistance in removing those items. If personal items are still present in the cleanup areas at the start of cleanup and the resident or owner did not ask DTSC for assistance in removing the items in advance, DTSC may: (1) attempt to work around the inaccessible areas; (2) with the resident's or owner's written permission, move the items to another area of the property; or (3) notify the resident or owner that a cleanup cannot occur until the personal items are removed. The cost DTSC incurs to relocate personal items will be deducted from the landscaping compensation check to the owner. Neither DTSC nor the cleanup contractor will be responsible for damage to personal belongings left in the yard.
  3. Soil will be removed according with the IRMW (up to 18 inches). The contaminated soil will be placed in a plastic lined truck and covered prior to transporting it to an approved landfill for disposal. Fences may need to be removed but will be re-installed.
  4. A layer of compacted fill followed by new soil will replace the contaminated soil followed by sod, decomposed granite, wood mulch, or lava rock. Green or sustainable landscaping may be an option in the future. If sod is used, watering instructions will be provided.
  5. The owner will receive a $500 or $1,000 check--depending on the size of the area to be removed--for

replacement of plants within planter areas and use of water (i.e., landscaping and incidentals compensation check). If a plant has sentimental value, the plant can be preserved and the soil (up to six inches) around can be replaced. The owner will receive the landscaping compensation check after the soil removal activities are completed. The owner will be required sign and submit a Compensation Acknowledgement form to DTSC when he or she receive reimbursement. No trees or established shrubs greater than four feet in height or four inches in diameter will be removed. Note that the final grade will be typically restored to pre-existing conditions. It is understood that the existing landscaping for some residential properties may not have adequate storm water drainage; the landscape restoration may not be able to address or improve existing storm water drainage conditions.

6. Work time can vary depending on access to the property and type of equipment used (mini-excavator vs. picks and shovels). The work from start to end will typically take one week and no more than two weeks to complete. (This estimate does not account for extended rainfalls.)
7. Dust control monitoring will include the use of two to three dust monitors to ensure dust is not an issue. DTSC may use minimal amounts of water from the property for dust suppression, including wetting the soil prior to and during excavation and soil handling activities. DTSC will compensate residents or owners (depending on which pays the water utilities for landscape maintenance) $35 for this water usage. If paid to a resident, this reimbursement will be deducted from the landscape compensation check to the owner. A resident will be required to submit proof that he or she pays the water utilities to obtain reimbursement for this water usage.
8. Any damage incurred will be fixed by the contractor. Additionally, extra caution will be taken with water lines due to the age and condition of pipes in the area. To safeguard the property owner and the contractor, photos of concrete driveways, decorative tile, existing damage at the property, etc. will be taken.
9. If requested by the owner or resident, after remediation is complete, DTSC will provide for interior cleaning by a professional interior cleaning service. Professional services will include the following: vacuuming the floors, carpets, upholstery, and draperies with a HEPA vacuum cleaner followed by wet wipe cleaning of hard surfaces where applicable. To obtain this service, the resident must agree to allow DTSC to provide his or her contact information to the professional cleaning service. The cleaning service will then work directly with the resident to schedule the cleaning. This cleaning is highly recommended to remove potential residual exposure from lead.

Step 4 Close-Out Meeting

- After the soil removal activities and restoration of the yard to the original conditions are completed, a Close Out Meeting will be conducted with the property owner.
  1. A walk through is conducted by the contractor with the property owner.
  2. The contractor and residents will refer to the photographs taken of the property and other evidence prior to work starting, if any issues are noticed by the owner.
- Contractor will resolve any issues identified with the owner and notify DTSC.
- Contractor will prepare a Letter of Completion and submit to DTSC within 30 days of completion of the work.